Amendments to the specification:

Please amend the specification as indicated below. Added text is underlined and deleted text is either struck through or shown in double enclosing brackets. Applicants aver that no new matter has been added. Amendments to the specification consist solely of corrections to errors of a typographical nature.

Applicant amends the paragraph on page 1 of the specification, beginning at line 15 and ending on line 34 as follows:

2. Background Art

Despite the economic recession, network traffic continues to grow. Optical Packet Switching (OPS) is a promising candidate for a future cost effective network, supporting both high throughput and utilization. Two main issues of interest in OPS are however optical synchronization and buffering. Recently, a number of works ~~has~~ have focused on using asynchronous packet switching, thereby avoiding the optical synchronization unit [1], [2]. (Bracketed references appear at the end of the specification.) Because of the immaturity of optical memory, Fiber Delay Line (FDL) based optical buffering in combination with using the wavelength dimension for contention resolution (i.e. a packet can be forwarded on an arbitrar~~ily~~ wavelength leading to the destination), has been investigated [3], [2]. An alternative to FDL's is to use electronic memory with a limited number of buffer inputs [1,3]. In either case, buffer interfaces, consisting of FDL's or OE-converters (opto electronic converters), will represent a major cost factor for an optical packet switched system and should therefore be minimized [4].

Applicant further amends the paragraph on page 2 of the specification, beginning at line 22 and ending on line 35 as follows:

Further, in asynchronous optical Metro packet rings, the same problem as above arises. When aggregating new packets onto the ring in the access nodes, packets already at the ring may contend with new packets. A detection circuit combined with a delay, e.g. a Fiber Delay Line (FDL), may be applied to first detect and then delay packets before passing the access node. However, this calls for extra components, both detectors and FDLs, making the principle potentially expensive. Additionally, in order to avoid packet collision when new packets enter[[s]] the Metro ring, the FDLs will need to delay the packets longer than the duration of the longest of the new packets that enters the ring. This will impose additional delay of the packets already in the packet ring.

Applicant further amends the paragraph on page 6 of the specification, beginning at line 15 and ending on line 20 as follows:

A very effective use of the invention is within networks with optical packet switching employing wavelength division multiplexing (WDM) and where priority according to a set of rules are given regarding data entering a switch from the network, hence an input priority (IP) scheme will be described in details in the following with references to the accompanying drawings.

Applicant further amends the paragraph on page 7 of the specification, beginning at line 7 and ending on line 33 as follows:

The short packets will occupy the output-resources for a short time. The probability for the next packet arriving at the switch ~~will~~ to be blocked when arriving at a random time after a short packet will therefore be lower than if the previous packet was a long packet. Since buffered short packets introduce a lower probability for contention than the long packets

that are buffered, hence according to the present invention the buffered packets are divided into three queues according to the length of the packets. The number of wavelengths that need to be vacant before scheduling packets from the queue with short packets can be lower than for the queue with the medium length packets, which again has lower demands to a number of vacant wavelengths than the queue with the longest packets. The number of minimum vacant wavelengths before a queue is serviced can be defined as: Wv_1, Wv_2 and Wv_3 for the three queues respectively. An empirical Internet packet length distribution like in [1] is assumed, and the packet length ranges for the three queues is defined, Q_1, 40-44 bytes (B), Q_2 45-576 B and Q_3 577-1500 B. To set Wv_i, a simulation is performed for 32 wavelengths, 8 input fibers, assuming independent input sources and Poisson packet arrival, load 0.8, and set the number of buffer ports to 16. Wv_1-Wv_3 is then varied while always keeping $Wv_1 < Wv_2 < Wv_3$, finding the PLR as a function of mean delay of the buffered packets and the values of Wv_1-Wv_3. A generic model of the simulated switch and the simulation results are shown in Figs. 1 and 2.

Applicant further amends the paragraph on page 8 of the specification, beginning at line 3 and ending on line 19 as follows:

To emulate the ideal case of total IP, i.e. no extra contention is caused by packets scheduled from the buffer, buffered packets can simply be dropped and not counted in the PLR statistics. This will give the minimum limit, titled IPlim in Figure [[2]] 3, for the achievable PLR in the described system. As a measure of packet reordering, the mean delay of the buffered packets and its Standard Deviation (Sd) is used. In Figure [[2]] 3, the PLR and delay parameters performance for different buffering schemes, also FDL buffering schemes not employing asynchronous input priority with three queues, is shown. The two FDL buffering schemes: INCremental FDL (INC), and FIXed FDL (FIX), both employ buffer priority, since buffered packets are scheduled (or dropped) as soon as they appear at the output of the FDL's. Also the performance of an electronic buffer with Buffer Priority (BP), where packets in the buffer are scheduled as soon as an output becomes available, is found.